Georgia Department of Natural Resources
205 Butler Street, S.E., Suite 1154, Atlanta, Georgia 30334
Lonice C. Barrett, Commissioner
Environmental Protection Division
Harold F. Reheis, Director
404/656-7802

October 22, 1999

TRIP REPORT

SITE NAME AND LOCATION:	General Motors 3900 Motors Industrial Way Doraville, Georgia 30360-3163 EPA I.D. No. GAD003310810
TRIP BY:	Kenneth Grall KG Environmental Engineer
ACCOMPANIED BY:	Robert Pierce - Georgia EPD Geologist Houston Gilliand, Jr. - U.S. EPA Environmental Scientist
DATE OF TRIP:	September 21-22, 1999
OFFICIALS CONTACTED:	Don Smith - General Motors Environmental and Energy Manager
REFERENCES:	Compliance Evaluation Inspection (CEI)

BACKGROUND:

The purpose of this trip was to conduct the 1999 financial fiscal year Compliance Evaluation Inspection (CEI) of the General Motors Doraville facility (GM). A CEI is a routine inspection of hazardous waste generators, transports, and treatment, storage, and disposal facilities to evaluate facility compliance with applicable RCRA standards promulgated in 40 CFR 260-270, 273 and 279. The facility was also evaluated on compliance with Georgia Rule 391-3-11-.19, Standards for Waste Mercury-Containing Lamps.

GM assembles new model mid-size minivans at the Doraville facility. These minivans include the Pontiac Transport, the Chevrolet Venture, and the Oldsmobile Silhouette.

On May 20, 1999 the Focused Risk Assessments for Stormwater Retention Pond (Area 1) and the Tank Farm (Area 6) was approved except for the groundwater exposure assessment for Area 6. Since GM chose not to evaluate the groundwater for future risk

corrective action was imposed. The remediation goals are the default cleanup goals in Georgia; drinking water maximum contaminant levels (MCLs). Where an MCL does not exist for a particular constituent background is the cleanup criteria. During the CEI the corrective action plan was given to me.

In 1996 GM installed the Metal Fabrication Division Plant on the north east corner of the plant property. The Metal Fabrication Division Plant is under the same corporate head (General Motors) as the Assembly Division Plant and are in connecting buildings. The Metal Fabrication Plant, often referred to as the Stamping Plant, stamps the body parts used in the production of minivans.

INSPECTION:

Upon arriving at the facility we met with Don Smith. Camera passes were obtained and we proceeded with inspecting the Stamping Plant. The Stamping Plant receives rolls of sheet metal from which GM's mid-size minivans' body parts are cut and stamped. No hazardous wastes were being generated in the Stamping Plant.

Once the inspection of the Stamping Plant was completed we proceeded to the Assembly Plant. The general course of the inspection followed initial materials receipt to product completion. During the inspection waste generation and management points were scrutinized. GM's hazardous wastes are predominantly generated as a result of the painting process. A general outline of the painting process is listed below.

Painting Steps

1. Galvanized steel or aluminum.
2. Zinc phosphate chemical conversion coating.
3. ELPO painting.
4. Priming.
5. Basecoat.
6. Clearcoat.

The first three steps of the painting process is required for rust protection, the last three are for appearance. The phosphate coating process generates a F019 wastewater treatment sludge. The ELPO painting process generates filters that are characteristically hazardous for lead. The final painting steps generate waste solvents and paints.

Phosphate Process

GM establishes a corrosion resistant base to the galvanized steel and aluminum by using a chemical conversion coating process. This process proceeds as follows:

1. Automobile bodies are pre-cleaned with a neutral cleaner to remove any oil and water-based drawing lubricants from the metal.
2. An alkaline cleaner is then used to prepare the metal for application of the phosphate coat.
3. The bodies are dip rinsed in warm city water.
4. A rinse conditioner is sprayed on the bodies in order to promote phosphate crystal refinement.

5. A zinc-iron phosphate coating solution is sprayed next. This solution provides a micro-crystalline corrosion resistant base.
6. A cold city water rinse is then applied in order to neutralize the phosphate coating.
7. In stage seven a chromium nitrate (Cr^{+3}) sealer is applied to remove soluble chromium salts.
8. The bodies are at last rinsed with deionized water.

The overflows from this process are sent to the onsite wastewater treatment plant where the sludge is generated. The sludge is not characteristically hazardous, though meets the definition of a F019 waste due to the chemical conversion coating of aluminum. A delisting application is being prepared for this waste stream.

ELPO Filter Bags

The ELPO paint is the outermost layer of rust protection. The vehicle is painted by submerging the body in a tank of water based prime paint that contains lead. The lead gives the paint its corrosion protection properties. In this process the paint tank is charged and the body grounded so that a uniform coating of paint is applied to all surfaces of the vehicle. The paint for this process must be filtered to remove impurities that might deposit on the metal surfaces. This filtering process generates the ELPO filter bags which are characteristically hazardous for lead.

Painting Operations

Once the corrosion protection has been applied the vehicle is primed and the basecoat and clearcoats are added. This is done through a single primer booth, eight base coat booths and eight clear coat booths. The hazardous wastes generated in these areas are waste paint (D001) and waste purge thinner (F003, F005). Over the past year GM has been installing new paint robots. These robots have better purge efficiencies providing a reduction in the quantity of waste purge thinner that is generated. The old paint robots generate 1.77 gallons of waste purge thinner per vehicle produced while the new robots generate 1.00 gallon per vehicle. Waste paint generation is reduced by batch painting in order to reduce change out.

The waste purge thinner is accumulated for less than 90 days in a 7,500 gallon tank that meets Tank Level 1 controls. The tank is located in the paint kitchen and has secondary containment. In response to the 1998 FFY CEI GM installed an impervious coating to the concrete liner system. A combination conservation vent and flame arrestor is connected to the tank system to control air emissions.

Seven spray booth touch-up bays are present for final repair to a damaged vehicle. In each touch-up bay a gun cleaner box is present that contains a mixture of paint and solvent. At the end of each day all gun cleaner boxes are emptied and the material is wasted in a satellite accumulation drum.

Hazardous Waste Storage Area

All hazardous wastes GM generates, except for the waste purge thinner that is collected in the aforementioned tank system and the F019 sludge, are accumulated in the hazardous waste storage area prior to offsite shipment. During the inspection the following wastes were being accumulated in this area:

- ELPO filter bags (D008),
- waste thinner (D001),
- waste rags (D001),
- used oil,
- lead acid batteries (universal waste), and
- mercury containing bulbs (D009)

Wastewater Treatment Sludge

The wastewater treatment sludge is listed as a F019 waste due to the chemical conversion coating of the aluminum vehicle hoods. This waste is generated at the wastewater treatment plant and is accumulated in a 30 yd^3 rolloff container. GM was in the process of installing a new filter press that will dewater the sludge more efficiently.

During the walk through inspection no violations were noted.

After completing the walk through inspection we proceeded with records review. This took place back in Don Smith's office. The records reviewed included the following:

- Manifests,
- Land disposal restriction notifications,
- Personnel training records,
- Contingency plan,
- Preparedness and prevention equipment inspection records (These records were throughout the facility and inspected during the walk through.),
- Waste analysis plan,
- Container and tank inspection logs,
- Tank system integrity and design assessments,
- Spill reports,
- Biennial reports,
- Hazardous waste reduction plans,
- Hazardous site response program fee records, and
- Subpart AA, BB and CC design and initial assessment records.

A records appeared to be complete.

CONCLUSIONS:

No violations were noted during the walk through inspection and records review.

RECOMMENDATIONS:

Report the findings of the inspection to the facility in a compliance status letter.

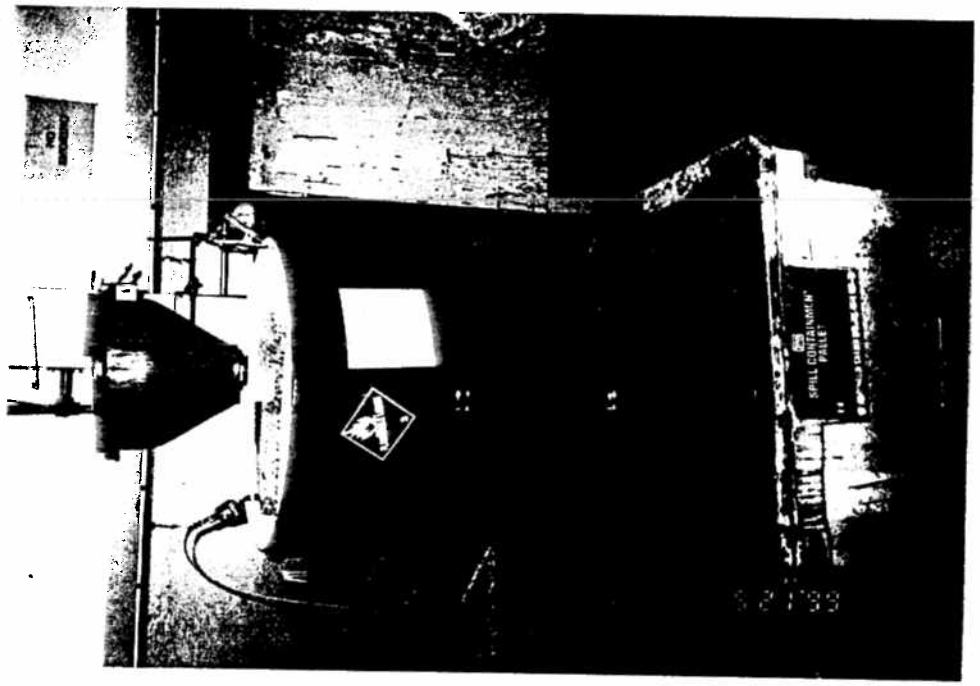
PHOTOGRAPHS: Nine

SAMPLES: None

REVIEWED BY: D. Yardumian

ATTACHMENTS: Photo Log

c: Jeff Pallas - EPA Region IV
File: General Motors - Doraville (R)
R:\KENG\GM-DOR\TRIP2.CEI

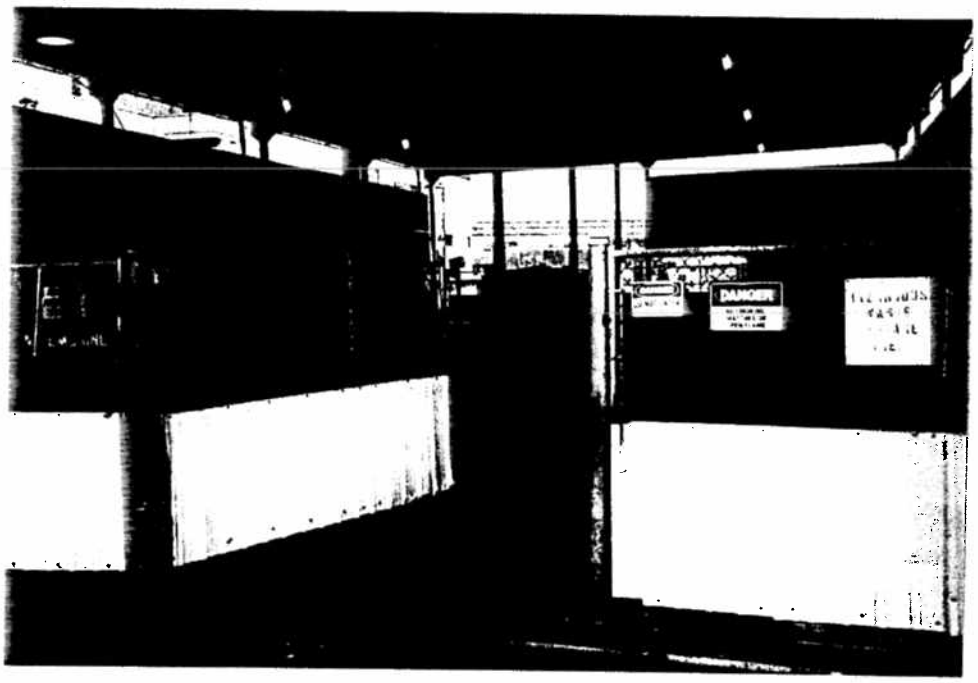


COUNTY:
Dekalb
NO. 1 OF 9
SITE NAME:
GM - Doraville
DATE: 9/21/99
PHOTO BY:
Ken Grall

EXPLANATION: Satellite accumulation drum for the spray booth touch-up bays.

COUNTY:
Dekalb
NO. 2 OF 9
SITE NAME:
GM - Doraville
DATE: 9/21/99
PHOTO BY:
Ken Grall

EXPLANATION: Spray booth touch-up bay. Seven of these bays exist. The spray gun cleaner box is the red container along the back wall.

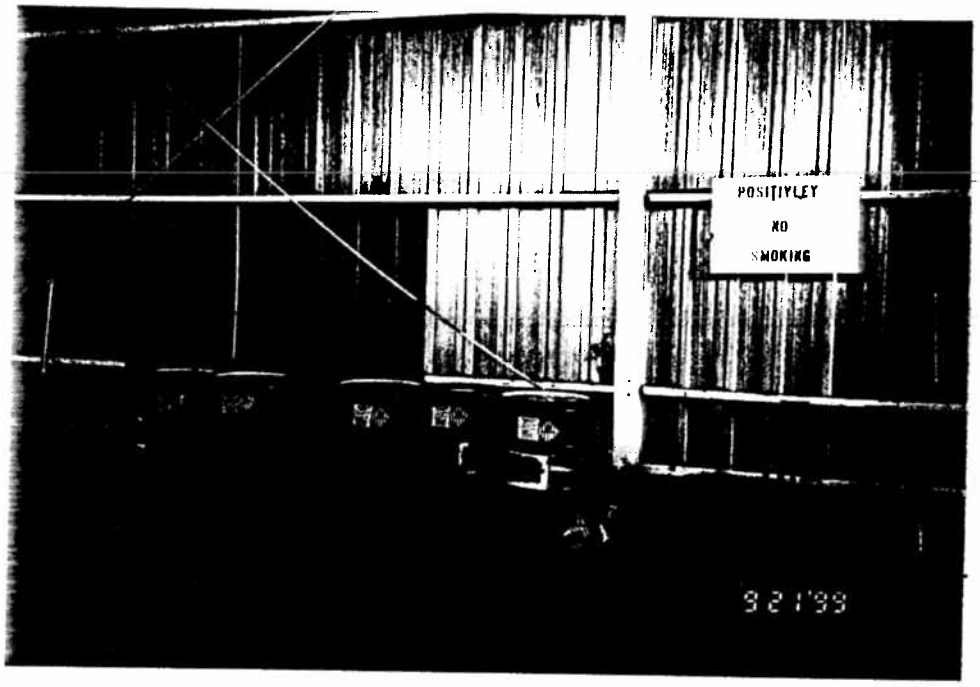


COUNTY:
Dekalb
NO. 3 OF 9
SITE NAME:
GM - Doraville
DATE: 9/21/99
PHOTO BY:
Ken Grall

EXPLANATION: Hazardous waste less than 90 day accumulation area.

COUNTY:
Dekalb
NO. 4 OF 9
SITE NAME:
GM - Doraville
DATE: 9/21/99
PHOTO BY:
Ken Grall

EXPLANATION: Hazardous waste accumulation area. The ELPO filter bags are accumulated in the roll-off container.



COUNTY:
Dekalb

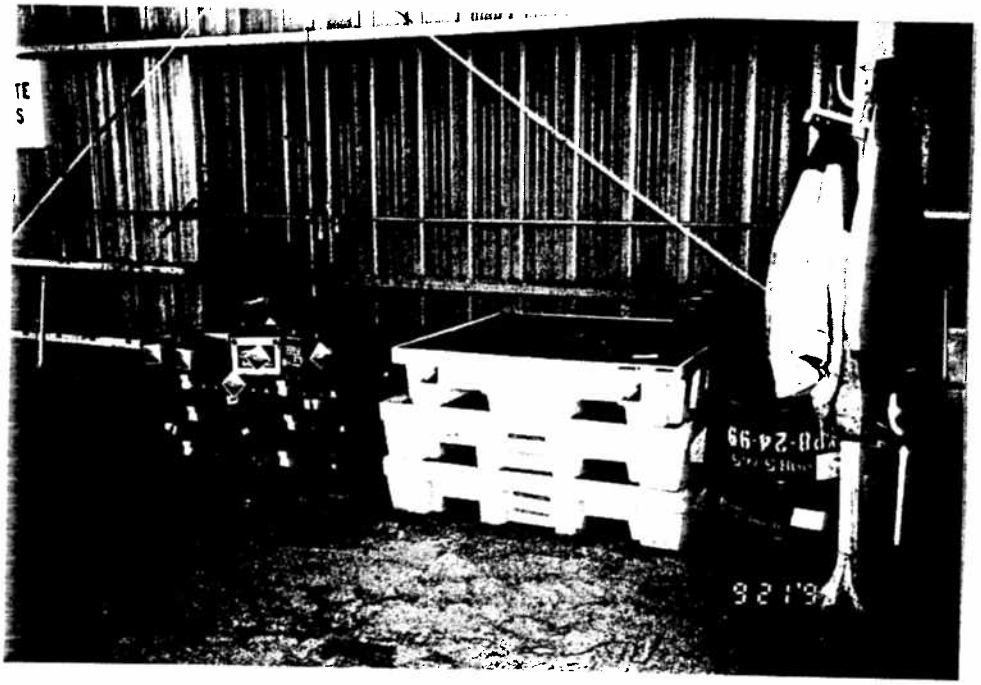
NO. 5 OF 9

SITE NAME:
GM - Doraville

DATE: 9/21/99

PHOTO BY:
Ken Grall

EXPLANATION: Hazardous waste accumulation area. Waste solvent / paint related material is in the drums.



COUNTY:
Dekalb

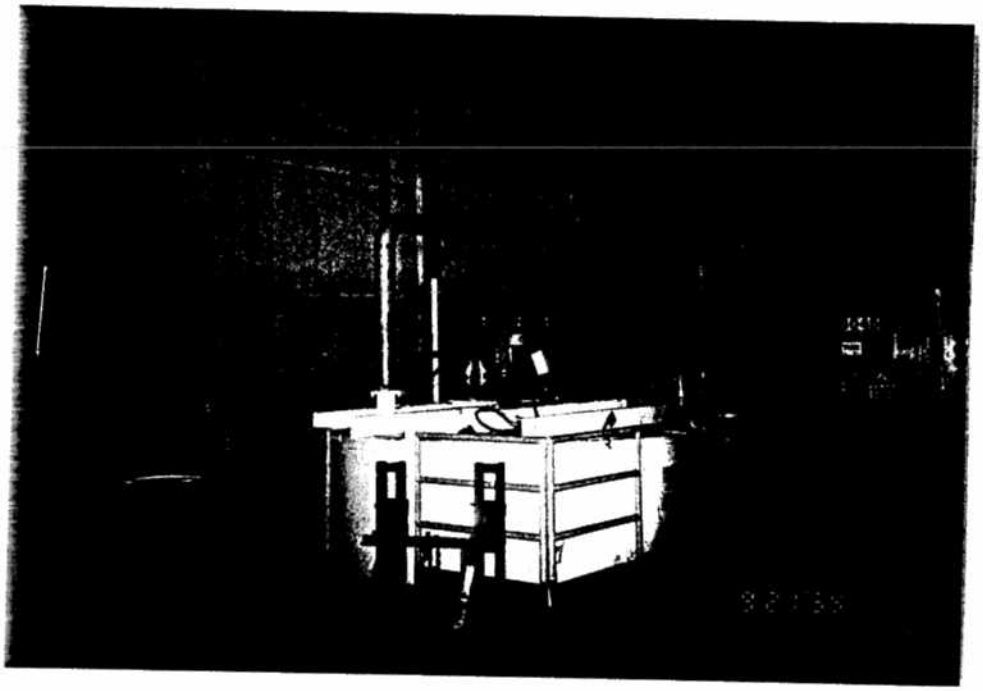
NO. 6 OF 9

SITE NAME:
GM - Doraville

DATE: 9/21/99

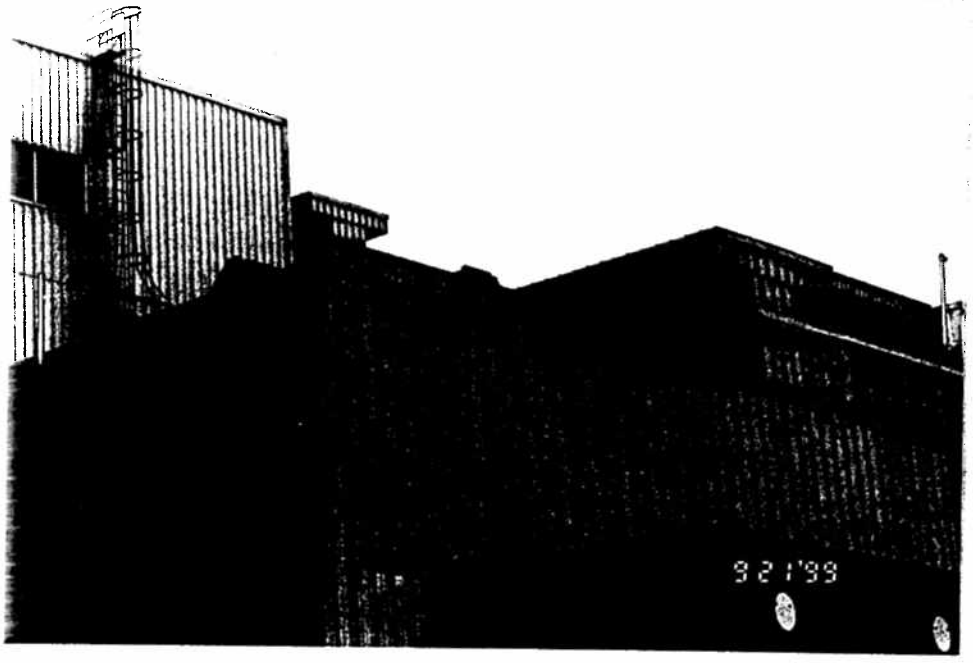
PHOTO BY:
Ken Grall

EXPLANATION: Hazardous waste accumulation area. Waste lead acid batteries are accumlated on the spill contained pallets.



COUNTY:
Dekalb
NO. 7 OF 9
SITE NAME:
GM - Doraville
DATE: 9/21/99
PHOTO BY:
Ken Grall

EXPLANATION: The white tank is the waste purge thinner tank. The silver tank is for virgin solvent.



COUNTY:
Dekalb
NO. 8 OF 9
SITE NAME:
GM - Doraville
DATE: 9/21/99
PHOTO BY:
Ken Grall

EXPLANATION: The conservation vent / flame arrestor for the waste purge thinner tank can be seen on top of the building.

COUNTY:
Dekalb
NO. 9 OF 9
SITE NAME:
GM - Doraville
DATE: 9/21/99
PHOTO BY:
Ken Grall

EXPLANATION: F019 sludge is accumulated in this container.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

SEP 25 2000

4WD-RCRA

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

FILE

Mr. Dan Hughes,
Environmental and Energy Manager
General Motors Assembly Plant
3900 Motors Industrial Way
Doraville, Georgia 30360-3163

SUBJ: RCRA Compliance Evaluation Inspection
EPA I.D. No. GAD 003 310 810

Dear Mr. Hughes:

On August 23, 2000, the United States Environmental Protection Agency (EPA), conducted an RCRA compliance evaluation inspection at your facility located in Doraville Georgia, in order to determine it's compliance status with EPA.

Enclosed is the EPA RCRA Site Inspection Report which indicates that no violations of RCRA were discovered. A copy of this report has also been forwarded to Georgia Environmental Protection Division (GAEPD). Pursuant to the Memorandum of Agreement, GAEPD is the lead agency for any violations cited in the report.

If you have any questions, please contact Daryl Himes, of my staff, at (404) 562-8614.

Sincerely yours,

Jeffery T. Pallas, Chief
South Enforcement and Compliance
Section
Enforcement and Compliance Branch

Enclosure

cc: Jennifer R. Kaduck, GAEPD
Ken Grall, GAEPD

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

4WD-RCRA

SEP 25 2000

Ms. Jennifer Kaduck, Chief
Hazardous Waste Management Branch
Environmental Protection Division
Georgia Department of Natural Resources
Floyd Towers East, Room 1154
205 Butler Street, S.E.
Atlanta, Georgia 30334

SUBJ: RCRA Compliance Evaluation Inspection
General Motors Assembly Plant
EPA ID Number: EPA ID No: GAD 003 310 810

Dear Ms. Kaduck:

On August 23, 2000, a Compliance Evaluation Inspection was conducted by the United States Environmental Protection Agency (EPA) and the Georgia Environmental Protection Division (EPD) at the General Motors Assembly Plant facility located in Doraville, Georgia, to determine the facility's compliance status with RCRA.

Enclosed is the EPA RCRA Site Inspection Report which indicates that violations of RCRA were discovered. Pursuant to the EPA - EPD Memorandum of Agreement, EPD is the lead agency for enforcement of the violations discovered during this inspection.

Pursuant to the 1996 Hazardous Waste Civil Enforcement Response Policy (ERP), Day 0 is the date of the inspection referenced above. Based upon the violations discovered during the referenced inspection, the facility is determined to be a Secondary Violator (SV). Therefore, you must issue an informal enforcement action to the facility within ninety (90) days from day 0, and the facility must return to compliance within ninety (90) days from receipt of that informal action.

If you have any questions, please contact Daryl R. Himes at (404) 562-8614.

Sincerely yours,

Jeffrey T. Pallas, Chief
South Enforcement and
Compliance Section
RCRA Enforcement and
Compliance Branch

Enclosure

cc: Ken Grall, EPD w/enclosure

RCRA Inspection Report

1) Inspector and Author of Report

Daryl Himes
Environmental Engineer

2) Facility Information

General Motors Assembly Plant, (GM)
3900 Motors Industrial Way
Doraville, Georgia 30360-3163
(770) 455-5307
GAD 003 310 810

3) Responsible Official

Dan Hughes, Environmental & Energy Manager

4) Inspection Participants

Dan Hughs, GM
Lloyd Kaylor, GM
Ken Grall, GAEPD
Daryl Himes, US EPA
Larry Lamberth, US EPA

5) Date and Time of Inspection

August 23, 2000, 10:15 A.M.

6) Applicable Regulations

Title 40 Code of Federal Regulations (CFR) Parts 260 through 270.

Chapter 391-3-11 of the Georgia Hazardous Waste Management Act, adopted and incorporated by reference Parts 260 - 266, 268, & 270.

7) Purpose of Inspection

To conduct an unannounced compliance evaluation inspection (CEI) and determine the facility's compliance with all applicable regulations.

8) Facility Description

The GM Doraville facility is an automotive final assembly plant which assembles Chevrolet Venture, Oldsmobile Silhouette, and the Pontiac Montana. Parts are received by truck and by rail. Metal treatment operations performed include phosphating, electro-coating (ELPO), prime coating, base-coating, and clear-coating.

The facility covers approximately one-hundred and sixty-six acres. GM operates, on two nine-hour shifts, five days a week. There are approximately two hundred and seventy employees. GM has been operating since approximately 1946.

9) Findings

Following a presentation of credentials by EPA representatives, a brief discussion of the facility's operations and their management of hazardous waste generated within the facility was conducted. The walk-through portion of the inspection was then conducted which included: a windshield area, paint touch-up area, electro processing area, ninety (90) day storage area, paint tank room, paint mix room, and the wastewater treatment plant.

Windshield Area

One satellite container of hazardous waste was observed in this area. The drum was labeled with the words "Hazardous Waste" and closed.

Paint Touch Up Booths

One satellite container of hazardous waste was observed in the area outside the touch up booths. The fifty-five (55) gallon drum was labeled with the words "Hazardous Waste" and closed. Seven (7) touch up booths were being operated with at least five (5) booths having a small vat of solvent for tool cleaning purposes. Beneath the vats, the facility utilized five (5) gallon pails to transfer spent solvent from the vats to the satellite drum. Each pail was labeled with the words "Hazardous Waste." At the time of the

inspection, the pails were labeled with a D008 characteristic hazardous waste code. Facility personnel stated that this code was incorrect and would be corrected.

ELPO Area

During the metal surface treatment processing operations, the metal body of a car is submerged in a water-based primer. The primer is attached to the surface of the automobiles body when as electric charge is applied to the coating material and grounded by the body. The coating provides the foundation for a corrosion resistant finish. The coating contains a small amount of lead that is present to provide corrosion protection. The paint is filtered to remove impurities that might deposit on the metal surfaces. Spent filters are removed as required on a routine basis. Due to their lead content the filters are characteristically hazardous for lead and are collected in portable metal bins (5 ft. by 5 ft. by 2.5 ft) which are wheeled to the facility's ninety (90) day accumulation area and transferred to a roll-off container. At the time of the inspection, one portable container was present in the ELPO area with filters inside. The cart was closed and labeled with the words "Hazardous Waste" and an accumulation start date. The filters are accumulated and manifested off-site as D008 hazardous waste.

Paint Filter Bags

During the painting process, the metal body of a car is prime painted by submerging the car body in a tank of water based prime paint. Charging the paint tank and grounding the body deposits a uniform coating of paint on all surfaces. This coating of paint provides the foundation for a corrosion resistant finish. The paint contains small amounts of lead that provide the necessary corrosion protection. The paint is filtered to remove impurities that might deposit on the metal surfaces. Spent filters are removed as required on a routine basis. These filters are collected and transferred to drums. The filters are accumulated and properly disposed as hazardous waste D008.

In an area beneath the coating tanks, leaks of the liquid coating material were observed onto the floor below. A majority of the liquid falling in this area was observed to be draining into a concrete ditch which is connected to the facility's wastewater treatment area. Some of the material, however, was observed to be solidifying and collecting on the surface of the concrete in this area. **GM has failed to adhere to a condition for exemption from RCRA § 3005 given in 40 C.F.R. § 262.34(a)(1)(i) by allowing material from ELPO tanks to accumulate on the floor without being placed in containers.** Areas adjacent to that where the liquid was leaking onto the concrete were covered by a disposable layer of foil. These areas were relatively free of any leaks or dried on material at the time of the inspection.

Hazardous Waste Storage Pad (HWSP)

The HWSP is a concrete base which is covered with skid & chemical resistant coating. The pad is bermed, sloped and has a collection sump to collect water run-off from rain and other free liquids from leaks or spills. The pad has metal walls, a metal roof, and a chain-link gated fence.

During the inspection, twenty-three (23) containers of hazardous waste were observed in this area. Each container was in good condition, closed, and labeled with the words "Hazardous Waste" and an accumulation start date of less than ninety (90) days.

Four (4) pallets of lead acid batteries were observed in this area. The batteries were dated and in storage for less than one year in accordance with the requirements for a universal waste.

One satellite container of aerosol cans was also being managed as hazardous on the pad. The container was labeled and closed.

More than twenty (20) boxes of spent flourescent light bulbs were observed. The boxes were stacked on a pallet and were shrink-wrapped to keep them in place. Each box was in good

condition, closed, and labeled with the words "Hazardous Waste," and an accumulation start date of less than ninety (90) days.

Two (2) drums of mercury containing light ballasts were also in this area. The drums were labeled "Hazardous Waste" and dated.

At the time of the inspection, one portable container which is used occasionally in the ELPO area for the collection and transfer of hazardous waste filters was observed near a roll-off container used to manage the spent filters. The roll-off container was in good condition, closed, and labeled with the words "Hazardous Waste" and an accumulation start date of less than ninety (90) days. The cart, which had numerous spent filters stuck to the bottom inside, was closed and labeled only with the words "Hazardous Waste." **GM has failed to adhere to a condition for exemption from RCRA § 3005 given in 40 C.F.R. § 262.34(a)(2) by failing to label containers managing hazardous waste with an accumulation start date.**

Fourteen (14) fifty-five (55) gallon containers of used oil were observed in this area. All of the containers were labeled with the words "Used Oil."

Waste Purge Thinner Tank

Virgin and waste paint thinners are stored in adjacent seven-thousand five hundred (7,500) gallon tanks inside a paint tank room. The virgin thinner and spent thinner tanks are provided with lined secondary containment to contain spills. The volume of the secondary containment was adequate to contain the volume of one of the tanks. Spent thinner is transferred to the spent thinner tank by pipes through a gravity drain system which is free of pumps. The thinner is used to clean lines and equipment following a change of color. Spent solvent is removed from this tank in five thousand (5,000) gallon lots and transferred to a reclaim facility. The reclaimed material is reconstituted to GM specifications. The tank was equipped with a conservation vent in accordance Level 1 requirements for 40 CFR Section 265 Subpart CC requirements.

Paint Mixing Area

During the inspection, two (2) fifty-five (55) gallon satellite containers were observed in a satellite accumulation area inside the paint mixing room. Each container was closed and labeled with the words hazardous waste. At the time of the inspection, the floors in this area were clean and free of any spilled paint residues.

Painting Building

The painting operations were observed from a room above the actual painting operations. Painting systems are in place for primer, top coat, and repair painting. Hazardous waste is generated when paint becomes obsolete or "Off-spec." A paint color may become obsolete from one model car to the next. When a color becomes obsolete, it is removed from the system. Occasionally, a batch of paint may become "Off-spec" and must be disposed. Waste paints are drummed, moved to an accumulation area and transported off-site for fuel blending as D001 hazardous waste.

Waste Water Treatment Area

Over flows from the phosphate coating process are collected in a central drainage system and pumped to the on-site waste water pretreatment system. At the treatment facility, pH is lowered and raised to points of solubility of metals using sulfuric acid and hydrated lime. After precipitation, sludge is removed, thickened and dewatered. At the time of the inspection, the sludge, a F019 listed hazardous waste, was accumulating in of two (2) thirty-two (32) cubic yard roll-offs which were labeled with the words "Hazardous Waste" and an accumulation start date of less than ninety (90) days.

Record Review:

The following records were reviewed:

Manifests: All manifests generated since the last inspection were reviewed. The manifests were signed by a facility representative, transporter, and a return copy signed by the receiving facility. All Land Disposal Restriction documentation was completed for each type of waste by being either attached to the individual manifest or by being performed on a one time basis, based on the characteristics of the waste staying the same.

Inspection Logs: Inspection logs for the HWSP and tanks were complete and up to date.

Contingency Plan: A review of the contingency plan was conducted the listing of the emergency coordinators had not been updated to reflect the change of Don Smith being replaced by Dan Hughes.

Personnel Training: A review of the personnel training records indicated that facility personnel would need to compile the records in a manner which would reflect the positions at the facility responsible for management of hazardous wastes, their job description and required training, and records to reflect their annual training.

Waste Analysis Plan: A copy of the Waste Analysis Plan was available for review and appeared to be complete.

Copies of the facility's fee records and biennial reports were available for review.

10) Signed

Daryl R Himes

Daryl R. Himes
Environmental Engineer

9/12/00
Date

11) Concurrence

Jeffrey T. Pallas, Chief
South Enforcement and Compliance
Section
Enforcement and Compliance Branch

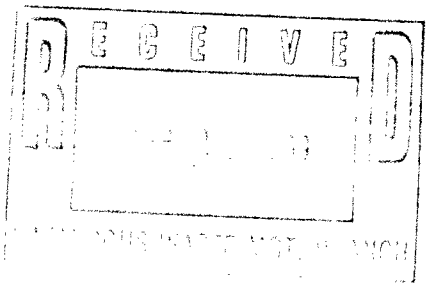
9/15/00
Date

North American Operations

Certified Mail
Return Receipt Requested

September 17, 1999

DOE 99-133



Jim Ussery, Program Manager
Georgia Department of Natural Resources
EPD, Hazardous Waste Management Branch
205 Butler St. S.E., Suite 1162
Atlanta, GA 30334

Mr. Ussery:

Subject: Corrective Action Plan, Area 6, Tank Farm
General Motors, Doraville Assembly Plant

Enclosed is the Corrective Action Plan for Ground Water at the Tank Farm (Area 6) for the General Motors Doraville Assembly Plant at 3900 Motors Industrial Way, Doraville, Georgia.

If there are additional questions, the writer can be contacted at (770) 455-5307.

Sincerely,

J. Scott Mullennix
Central Engineering Manager

By:

Don L. Smith
Environmental and Energy Manager

cc: Ken Grall
File (2)

Corrective Action Plan
for Ground Water at Tank Farm (Area 6)
General Motors Doraville Assembly Plant
3900 Motor Industrial Way
Doraville, Georgia
GAD003310810

Prepared for

General Motors Corporation
Doraville, Georgia

Prepared by

ENVIRON Corporation
Princeton, New Jersey

September 15, 1999

CONTENTS

FIGURES

TABLE

I. INTRODUCTION

This corrective action plan addresses petroleum-related ground water contamination at the Tank Farm (Area 6) at the General Motors Corporation (GM) Doraville Assembly Plant in Georgia. The RCRA Facility Investigation (RFI) baseline risk assessment (Weston 1999) demonstrated that there is no current exposure to contaminated ground water at the Tank Farm and that future exposure is highly unlikely. However, the Georgia Environmental Protection Division (EPD), in a letter dated May 20, 1999, requested that GM submit a corrective action plan to address ground water conditions at the Tank Farm.

The RFI baseline risk assessment showed that the shallow saturated zone at the facility is incapable of providing sufficient yield to support industrial use of ground water under the current and reasonably expected future industrial land use of the site. Drinking water for the site is currently provided by a reliable public water supply system. In addition, existing EPD regulations that govern the installation of drinking water supply wells would prohibit the installation of drinking water wells in ground water as shallow as that at the Tank Farm.

In addition to the lack of current and reasonably expected future exposure to contaminated ground water at the Tank Farm, ground water conditions appear well suited for either monitored natural attenuation or enhanced biodegradation. The area of ground water contamination is relatively small and appears to be stable or decreasing in size. Based on ground water monitoring data over the period from 1988 to 1995, natural degradation of contaminants appears to be occurring. Also, benzene (the primary constituent of concern in the ground water) is widely recognized to degrade naturally in many ground water environments, including those that likely exist at the Tank Farm.

The corrective action plan is based on these findings from the RFI baseline risk assessment. The plan includes evaluation of the feasibility of either monitored natural attenuation or enhanced biodegradation for addressing the ground water conditions at the Tank

Farm, development of a remedial design for the most appropriate option, and implementation of the selected remedy. The corrective action plan consists of the following:

- Field work to evaluate the appropriateness of monitored natural attenuation, including collection of ground water samples at the Tank Farm to characterize current concentrations of benzene and other water quality parameters, and measurement of hydraulic conductivity to verify ground water flow conditions;

- Evaluation of the field work results to determine the degree to which natural degradation is occurring and recommend either monitored natural attenuation or enhanced biodegradation;

- Submittal of a remedial design report for review by EPD that summarizes the field work results and describes the details for implementing either a monitored natural attenuation or enhanced biodegradation remediation approach; and

- Implementation of the remedial approach.

The remainder of this section summarizes existing information on the geologic and hydrogeologic setting at the facility and the ground water conditions at the Tank Farm. The applicability of monitored natural attenuation for addressing the ground water conditions at the Tank Farm is discussed in Section II. Section III describes the field work to evaluate the appropriateness of monitored natural attenuation. Section IV describes the approach for implementing the remedy. The schedule for performing the field work, evaluating the results, and preparing a remedial design report for implementing either monitored natural attenuation or enhanced biodegradation is provided in Section V. References cited in this corrective action plan are listed in Section VI.

A. Site Location and Description

The GM Doraville Assembly Plant (the site) is an automobile manufacturing facility located at 3900 Motor Industrial Way in Doraville, Georgia. Figure 1 shows the location of the site. The entire facility occupies approximately 166 acres in an industrial area of Doraville. The site is surrounded by Southern Railroad to the southeast, industrial properties to the west, southwest, and northwest, and Interstate highway I-285 to the north and northeast. Commercial and residential properties are located beyond the railroad and highway. Because of the size of the facility, the site has been divided into several discrete areas for investigation. The area addressed by this corrective action plan is the Tank Farm (Area 6) located on the southeast side of the facility (Figure 2). The ten 10,000-gallon aboveground storage tanks (ASTs) located in the tank farm area hold new materials used in automobile manufacturing including antifreeze, automatic transmission fluid, diesel fuel, unleaded gasoline, power steering fluid and thinners. Six of the tanks were installed in 1947; the other four tanks were installed in 1964-1965. (Atlanta Testing and Engineering [AT&E] 1990.) The tank farm was upgraded in 1995 by installing an epoxy-sealed concrete floor with an impervious sub-base and spill collection system in the containment area.

B. Plume Source and Configuration

A plume of dissolved-phase, petroleum-related volatile organic compounds (VOCs) has been identified in the shallow ground water in the vicinity of the Tank Farm. Although the exact source of the constituents in the ground water is uncertain, there has been one reported release of gasoline in the Tank Farm area. This release resulted from the overfilling of a gasoline tank in February 1986. According to facility records, the spill was immediately contained and cleaned up by pumping from the containment area surrounding the tanks. No other releases are known to have occurred at the Tank Farm (Weston 1999).

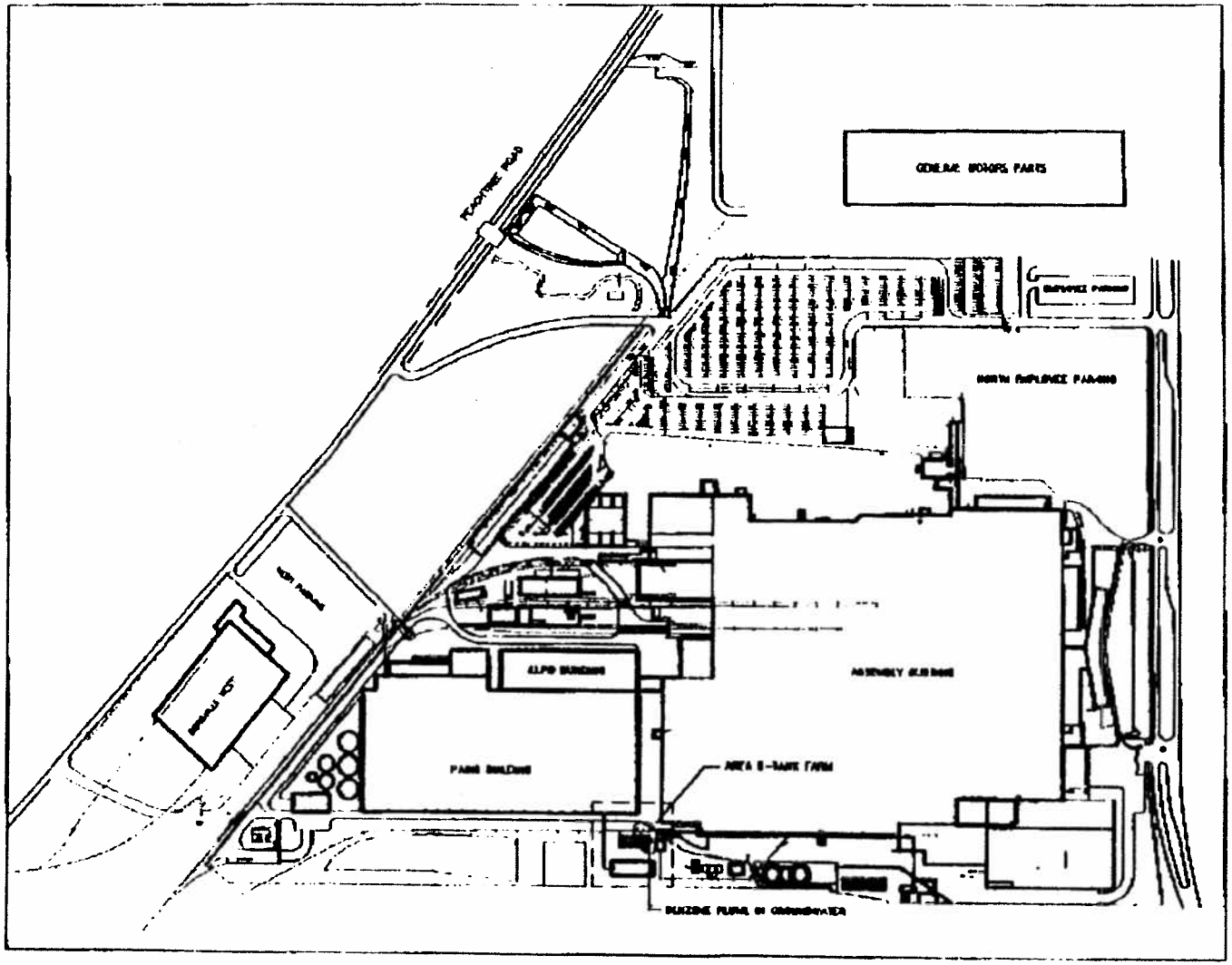
Several investigations were conducted at the Tank Farm between 1988 and 1995 (AT&E 1990; Weston 1999). The results of these investigations indicated the presence of benzene and other petroleum-related constituents in shallow ground water. However, benzene is the only

0 2000 4000

Scale in Feet

SOURCE: USGS CHAMBLEE, GA 1993 7.5 MINUTE TOPOGRAPHIC QUADRANGLE.

ENVIRON		SITE LOCATION MAP GENERAL MOTORS – DORAVILLE ASSEMBLY PLANT DORAVILLE, GA	FIGURE 1
DRAFTED BY: KPV	DATE: 9/7/99		6442A.0



ENVIRON

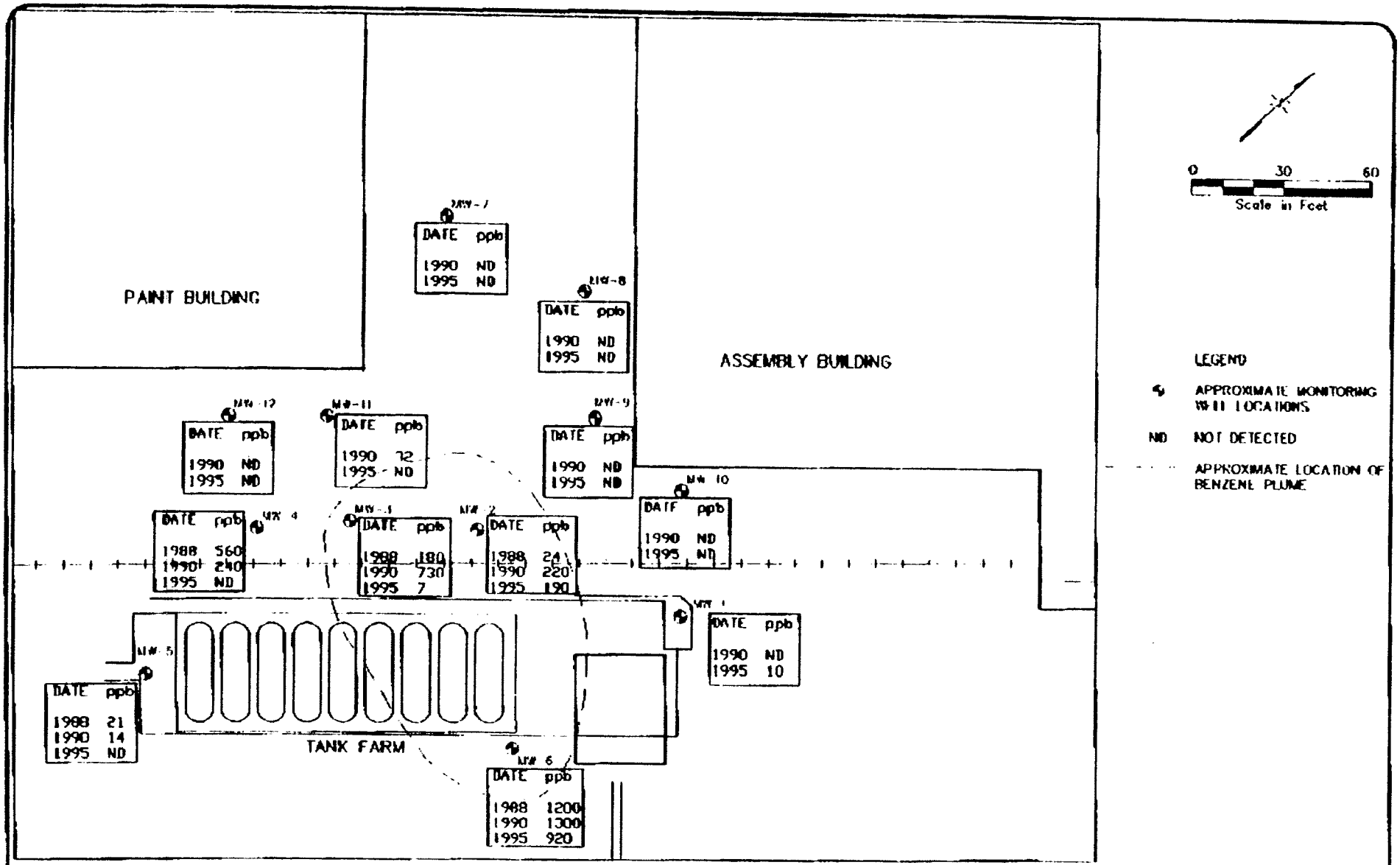
SITE PLAN
GENERAL MOTORS CORPORATION
DORAVILLE, GA

Figure
2

constituent detected at concentrations above the maximum contaminant levels (MCLs) promulgated under the Safe Drinking Water Act. As indicated on Figure 3, benzene has been detected in wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, and MW-11, with the highest concentrations [1.3 mg/L (1990); 0.92 mg/L (1995)] present in well MW-6 located on the southeast side of the Tank Farm. As with MW-6, benzene concentrations generally decreased between 1988 and 1995 throughout the plume area. Data collected in 1995 indicate that the plume is of limited extent, extending to the northwest less than 50 feet from the Tank Farm. The location of the plume is shown on Figures 2 and 3. Ground water contamination is limited to shallow ground water, as contaminants have not been detected in a bedrock well installed in this area. Given the site conditions, the nature and levels of contaminants in the area, and the history of ground water monitoring, the plume appears stable and likely to remain stable or decrease in size.

C. Site Geology and Hydrogeology

The previous investigations show that VOC-impacted shallow ground water is present between about 10 and 20 feet below ground surface (bgs) in unconsolidated silts and sands underlying the vicinity of the Tank Farm (AT&E 1990, Weston 1999). The unconsolidated materials are underlain by saprolite and weathered gneissic bedrock. Based on the results of previous investigations, ground water flow appears to be horizontal and to the northwest. Information collected as part of the work described below in Section III will verify ground water flow conditions.



ENVIRON

BENZENE CONCENTRATIONS IN GROUNDWATER (ppb)
GENERAL MOTORS CORPORATION
DORAVILLE, GA

Figure 3

II. APPLICABILITY OF MONITORED NATURAL ATTENUATION

Although releases of petroleum hydrocarbons can adversely affect ground water quality, natural attenuation through microbially mediated degradation processes can significantly limit the migration of these contaminants, and in many instances can provide an effective remedial approach for achieving cleanup goals. The USEPA and many state agencies, including the EPD, now recognize monitored natural attenuation as a legitimate remedial approach for cleanup of sites with petroleum hydrocarbon contamination (USEPA 1999, EPD 1997). In general, the natural biodegradation of petroleum hydrocarbons under the appropriate geochemical conditions provides a mechanism for the significant reduction of contaminant mass. Unlike technologies such as pump-and-treat, biodegradation ultimately results in destruction of contaminants rather than the transfer to other media. The principal natural attenuation mechanisms affecting petroleum hydrocarbon contamination are aerobic and anaerobic biodegradation, dispersion, adsorption, and volatilization (McAllister and Chiang 1994). Therefore, the biological and geochemical characteristics of ground water in an area of petroleum hydrocarbon contamination provide essential indicators of natural attenuation potential.

As has been demonstrated at numerous sites, indigenous microorganisms can degrade soluble benzene, toluene, ethylbenzene, and xylenes (BTEX) contamination in ground water through a series of aerobic and anaerobic oxidation-reduction reactions where the BTEX hydrocarbons are oxidized and utilized as a growth substrate, and dissolved oxygen, nitrate, ferric iron, sulfate, and carbon dioxide are used as electron acceptors (Natural Research Council 1993; Borden et al. 1995).

Aerobic biodegradation is the predominant natural attenuation mechanism for BTEX contamination in ground water (Chiang et al. 1989). As such, dissolved oxygen and carbon dioxide levels in ground water can be analyzed to characterize the degree of aerobic

biodegradation in a BTEX plume. Anaerobic biodegradation is also an important mechanism for natural biodegradation of BTEX contamination when dissolved oxygen levels are depleted to less than approximately 1 to 2 mg/L (Borden et al. 1995; Newel et al. 1995; Wiedemeier et al. 1995). As dissolved oxygen levels are depleted from the activity of aerobic biodegradation, aquifer conditions become anaerobic resulting in the stimulation of microorganisms that can utilize a series of alternate electron acceptors for BTEX degradation. Anaerobic biodegradation mechanisms include (in order of greater reducing conditions): (1) nitrate reduction, (2) ferric iron reduction, (3) sulfate reduction, and (4) methanogenesis (methane production). When oxygen is depleted, nitrate (NO^{3-}) present in the ground water may be used as an alternate electron acceptor in the oxidation of BTEX contamination (Kuhn et al. 1988). Measurement of oxygen and nitrate levels enables evaluation of the degree of nitrate utilization by anaerobic microorganisms.

As the environment becomes even more strongly reducing, which typically occurs in the region of highest BTEX contamination, successive anaerobic processes will predominate. Ferric iron (Fe^{3+}) may be utilized as an alternate electron acceptor, resulting in the production of soluble ferrous iron (Fe^{2+}) (Lovely et al. 1989). Under greater reducing conditions, sulfate (SO_4^{2-}) may be utilized as an alternate electron acceptor in the oxidation of BTEX contamination (Beller et al. 1992). Therefore, information on the geochemical conditions provides key evidence on the extent of biodegradation and its potential.

When subsurface conditions are such that monitored natural attenuation, while technically feasible for a site, would take too long to achieve remediation goals, enhanced bioremediation can significantly reduce the remediation timeframes. With enhanced natural attenuation, specific compounds (e.g., oxidants) are added to change the geochemistry of the ground water, stimulate naturally occurring microorganisms, and accelerate degradation of contaminants.

GM believes that monitored natural attenuation or enhanced bioremediation is the most appropriate remedy for the petroleum contamination at the Tank Farm because:

- There is no current exposure to contaminated ground water at the Tank Farm and future exposure is unlikely;

- Drinking water for the site and surrounding area is provided by a reliable public water supply system;

- The area of ground water contamination associated with the Tank Farm is small and appears to be stable or decreasing in size;

- Based on the reduction in constituent concentrations in most wells between 1988 and 1995, natural degradation of contaminants appears to be occurring; and

- Benzene, the primary constituent of concern in the ground water, is widely recognized to degrade naturally in many ground water environments.

Analyses of ground water quality provide essential evidence in understanding the natural biodegradation mechanisms active within impacted ground water. Biological and geochemical ground water data collected from existing monitoring wells at the Tank Farm will enable evaluation of the occurrence and distribution of natural biodegradation processes in relation to the extent of contamination. Analysis of these data will enable GM to determine the long-term effectiveness of natural biodegradation mechanisms that are active at the site and allow selection of either a monitored natural attenuation or an enhanced biodegradation remedial approach for the Tank Farm.

III. FIELD WORK

GM proposes the field work described below to: (1) evaluate the current distribution of petroleum constituents in ground water; (2) obtain the data necessary to evaluate the appropriateness of natural attenuation; and (3) design the remedy. The proposed work consists of a round of ground water sampling of four existing monitoring wells and analysis of ground water samples for benzene, toluene, ethylbenzene, and xylenes (BTEX) and several parameters indicative of biodegradation. The wells included in the sampling event are located at the Tank Farm and include a source area well (MW-6), downgradient wells (MW-2 and MW-3), and a sentinel well (MW-11). In addition, GM will measure the hydraulic conductivity (using slug tests) at each of these wells to verify ground water flow and contaminant fate and transport conditions in this area.

In addition to BTEX, the ground water samples collected during the field work will be analyzed for the following indicators of aerobic and anaerobic biodegradation:

- Specific conductance, temperature, dissolved oxygen, carbon dioxide, pH, and Eh;
- Nitrate;
- Total kjeldahl nitrogen;
- Ferrous and ferric iron;
- Total and bicarbonate alkalinity;
- Hydrogen sulfide;
- Total phosphorus;
- Methane;
- Sulfate; and
- Viable petroleum-degrading microorganisms (heterotrophs).

- BTEX and gasoline-range organic compounds (GRO).[1]

The parameters to be measured at each well and the methods for measurement are provided in Table 1.

Depth to water measurements will be made in all monitoring wells at the Tank Farm to determine the direction of ground water flow and gradient. In addition, the wells will be checked for the presence of free product or a sheen. All ground water sampling and analytical methods will be consistent with procedures specified in the USEPA's May 1996 Region IV *Environmental Investigations Standard Operating Procedures and Quality Assurance Manual*.

The results obtained during this sampling event will be used to evaluate whether a monitored natural attenuation approach or an enhanced biodegradation approach is more appropriate for this site.

[1] The GRO analysis is necessary in addition to BTEX analysis to understand the contaminant mass present and its effect on the rate of decrease in benzene concentration over time.

TABLE 1
Ground Water Sampling
Field Work
GM Doraville Assembly Plant

Sampling Location	Parameters	Methods
MW-2 MW-3 MW-6 MW-11	BTEX	EPASW846: 8020
	GRO	EPA 3015
	Alkalinity, bicarbonate	SM 184500C02D
	Alkalinity, total	EPA 310.1
	Carbon Dioxide	SM 184500C02D
	Hydrogen Sulfide	SM 184500S2-F
	Ferrous and Ferric Iron	SM 183500FED
	Nitrogen, Nitrate and Nitrite	EPA 353.2
	Nitrogen, Nitrite	SM 184500N02B
	Total Kjeldahl Nitrogen	EPA 351.2
	Total Phosphorus	EPA 365.3
	Sulfate	EPA 375.4
	Methane	SW 846 8010/8015

Notes:

BTEX Benzene, Toluene, Ethylbenzene, and Toluene
GRO gasoline-range organics

EPA: Environmental Protection Agency
SM: Standard Methods

IV. IMPLEMENTATION

Following the completion of the field work and receipt of the results, GM will analyze the data to determine current ground water quality, evaluate the mass of petroleum constituents present in the Tank Farm area, and assess the comparative effectiveness, duration, and costs of a monitored natural attenuation approach versus an enhanced biodegradation approach for the Tank Farm area. Using this analysis, GM will select and design the remedy that will provide the most appropriate remedy for materially reducing the concentration of benzene in ground water at the tank farm area.

GM will prepare a remedial design report for submission to and review by the EPD. This design document will present the findings of the field work, the implication for remediation, and a detailed approach for the selected remedial approach, including:

- The monitoring locations and sampling frequency;
- The parameters to be tested;
- The qualitative and quantitative methods to be used for evaluating the monitoring data;
- The estimated rate of reduction in benzene concentrations over time;
- The proposed reporting format and frequency; and
- The means for enhancing biodegradation if such an approach is selected.

This detailed remedial design report will be submitted to the EPD for review and approval of the selected remedial approach. Upon receiving EPD's approval, GM will implement the selected remedy.

V. SCHEDULE

GM is prepared to begin the field work described herein within approximately four weeks of EPD's approval of this Corrective Action Plan. It is anticipated that sampling can be completed in one week. Laboratory analytical data will be available three to four weeks after submittal of the samples to the laboratory. Data evaluation (including a QA/QC review) and remedial design preparation are expected to require approximately eight weeks to complete. GM will begin making arrangements with necessary contractors upon EPD's approval of the remedial design and implementation of the remedy will begin approximately 4-8 weeks (depending on the selected remedy) following EPD's approval of the design. A schedule summarizing this information is provided in Figure 4.

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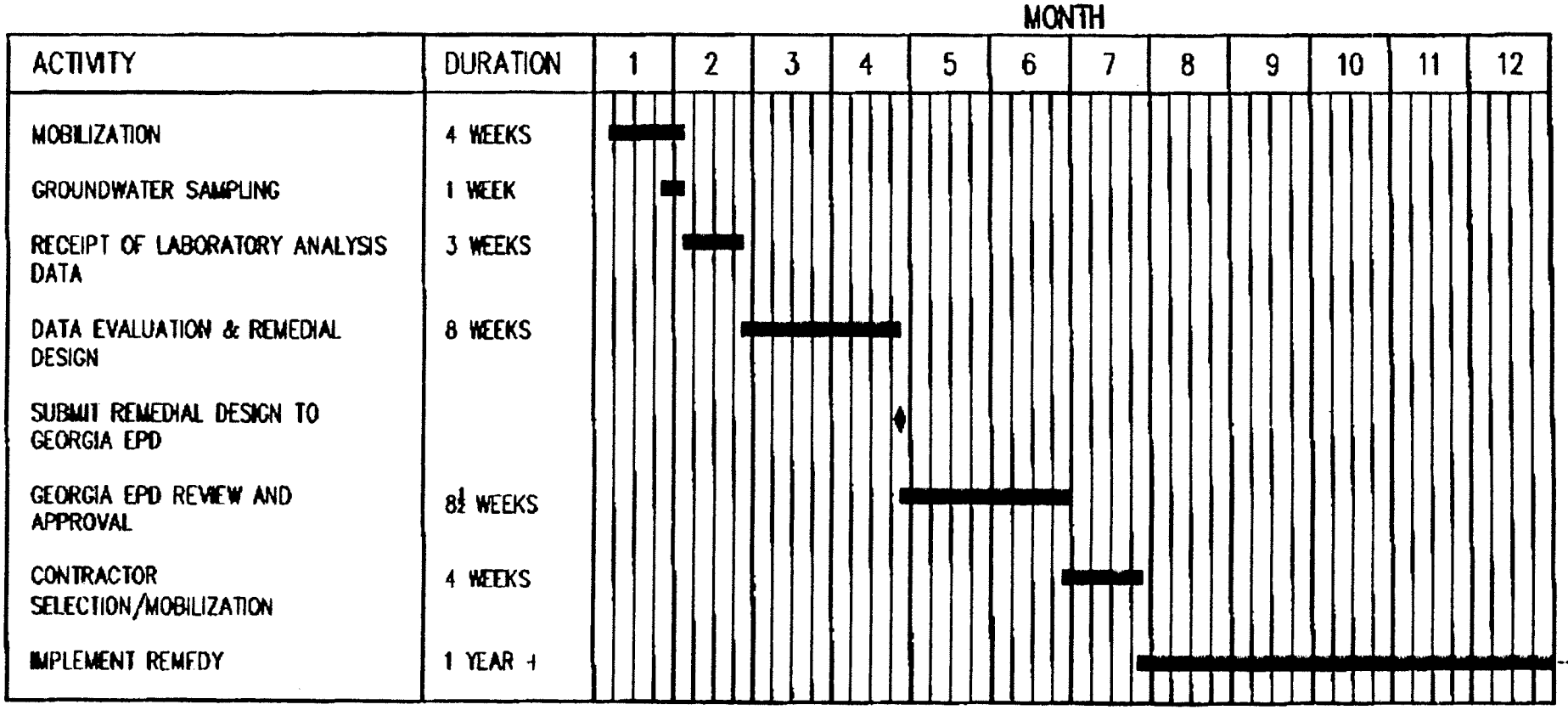

NOTES:

GM IS PREPARED TO IMPLEMENT THE FIELD WORK WITHIN 4 WEEKS OF APPROVAL BY EPD.

MOBILIZATION INCLUDES PREPARATION OF SUBCONTRACTOR AGREEMENTS, SCHEDULING AND MOBILIZATION TO SITE.

THIS SCHEDULE SHOWS SOME OVERLAP OF TASKS DUE TO UNCERTAINTIES IN SCHEDULING.

ENVIRON

DRAFTED BY: TJF/TSP/KPM DATE: 9/14/88

SCHEDULE
GM: DORAVILLE ASSEMBLY PLANT
DORAVILLE, GEORGIA

FIGURE
4

VI. REFERENCES

Atlanta Testing and Engineering. 1990. Report of Phase II Hydrogeologic Assessment. General Motors Corporation, Doraville, Georgia. March.

Borden, R.C., C.A. Gomez, and M.T. Becker. 1995. Geochemical indicators of intrinsic bioremediation. *Ground Water* 33(2): 180-89.

Chiang, C.Y., J.P. Salanitro, E.Y. Chai, J.D. Colthart, and C.L. Klein. 1989. Aerobic biodegradation of benzene, toluene, and xylene in a sandy aquifer: Data analysis and computer modeling. *Ground Water* 27(6): 823-34.

Georgia EPD. 1997. State of Georgia RBCA Information (http://www.gsi-net.com/RBCAPOL/StateInfo/Update1/GAFr.htm)

Kuhn, E.P., J. Zeyer, P. Eicher, and R.P. Schwarzenbach. 1988. Anaerobic degradation of alkylated benzene in denitrifying laboratory aquifer columns. *Appl. Environ. Microbiol.* 54: 490-96.

McAllister, P.M., and C.Y. Chiang. 1994. A practical approach to evaluating natural attenuation of contaminants in ground water. *Ground Water Monitoring and Remediation* 14, 2: 161-173.

National Research Council. 1993. *In situ bioremediation: When does it work?* Washington, D.C.: National Academy Press.

Newell, C.J., J.A. Winters, H.S. Rifai, R.N. Miller, J. Gonzales, and T.H. Wiedemeier. 1995. Modeling intrinsic remediation with multiple electron acceptors: Results from seven sites. In *Proceedings of the 1995 Petroleum Hydrocarbons and Organic Chemicals in Ground Water: Prevention, Detection, and Restoration.* Dublin, Ohio: NGWA.

USEPA. Region 4. 1996. *Environmental Investigations Standard Operating Procedures and Quality Assurance Manual.* May.

USEPA. 1999. Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites. OSWER Directive 9200.4-17P. April.

Weston. 1999. Focused Risk Assessments, Storm Water Retention Pond (Area 1) and Tank Farm (Area 6) (Revision 02) prepared for General Motors C9orporation Doraville, GA. January.

Wiedemeier, T.H., J.T. Wilson, and D.H. Kampbell. 1995. Significance of anaerobic processes for the intrinsic bioremediation of fuel hydrocarbons. In *Proceedings of the 1995 Petroleum Hydrocarbons and Organic Chemicals in Ground Water: Prevention, Detection, and Restoration*. Dublin, Ohio: NGWA.

02-6448A:PRIN_WP\11824v1.DOC

Georgia Department of Natural Resources
Environmental Protection Division, Hazardous Waste Management Branch
205 Butler Street, S.E., Suite 1162, Atlanta, Georgia 30334
Lonice C. Barrett, Commissioner
Harold F. Reheis, Director
Phone 404-656-2833, FAX 404-651-9425

2000 SEP 26 P 3:0

September 11, 2000

Certified Mail
Return Receipt Requested

Mr. Dan Hughes
Environmental and Energy Manager
General Motors Corporation
3900 Motors Industrial Way
Doraville, Georgia 30360-3163

RE: Notice of Violation
August 23, 2000 CEI
EPA ID No. GAD 003 310 810

Dear Mr. Hughes:

This Notice of Violation (NOV) is in response to a August 23, 2000 Compliance Evaluation Inspection (CEI). A CEI is a routine inspection of hazardous waste generators, transports, and treatment, storage, and disposal facilities to evaluate facility compliance with applicable RCRA standards promulgated in 40 CFR 260-270, 273 and 279. These standards have been incorporated by reference into Georgia's Rules for Hazardous Waste Management.

At the time of the CEI the following violations were noted:

1. Beneath the ELPO coating tanks was an accumulation of liquid coating material used in the ELPO process. The majority of the material was draining into a below surface concrete drain that is connected to GM's wastewater treatment plant, though some of the material was drying and accumulating on the concrete floor. This is a violation of 40 CFR 262.34(a)(1)(i) because the waste is accumulating on the floor and not being placed in containers.

2. A 55 gallon drum adjacent to the waste purge thinner tank was labeled as containing a D001 waste. The tank had a vacuum top though there was an open pipe line to the top. This does not meet the definition of a closed container and is therefore a violation of 40 CFR 265.173(a).

3. The 5'x5'x2.5' portable metal bin for the ELPO filter bags in the hazardous waste storage area was not marked with an accumulation start date and was not completely emptied. This bin is used to transfer ELPO filter bags from the collection point to the 20 yd^3 rolloff for offsite shipment. Apparently the bags are sticking to the inside of the bin and have not been removed when it is dumped into the larger rolloff. Since the bin was not empty,

waste was being accumulated and an accumulation start date is required to be posted on the container. This is a violation of 40 CFR 262.34(a)(2).

4. The contingency plan needs to be updated. Don Smith's name should be replaced with Dan Hughes on the emergency coordinator list. This is violation of 40 CFR 265.54(d).

Area of concern:

1. The personnel training records need to be compiled in a format such that the positions responsible for managing hazardous waste, their job description and required training, and records to reflect their annual training are readily available for review. This information was not in a written format that was able to be reviewed to ensure the requirements of the regulations are being met. GM must submit this information in a reviewable format such that it can be determined if the regulations are being met.

Within twenty (20) days of your receipt of this NOV please submit documentation showing correction of all the aforementioned violations. If you have any questions please contact Ken Grall at 404-656-2833 or by e-mail at ken_grall@mail.dnr.state.ga.us.

Sincerely,

Dave Yardumian

Dave Yardumian
Unit Coordinator

DY:kg
c: Jeff Pallas - EPA Region IV
Daryl Himes - EPA Region IV
File: GM - Doraville (R)
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Georgia Department of Natural Resources
Environmental Protection Division, Hazardous Waste Management Branch
205 Butler Street, S.E., Suite 1162, Atlanta, Georgia 30334
Lonice C. Barrett, Commissioner
Harold F. Reheis, Director
Phone 404-656-2833, FAX 404-651-9425

September 11, 2000

Certified Mail
Return Receipt Requested

Mr. Dan Hughes
Environmental and Energy Manager
General Motors Corporation
3900 Motors Industrial Way
Doraville, Georgia 30360-3163

GUP II

RE: Notice of Violation
August 23, 2000 CEI
EPA ID No. GAD 003 310 810

Dear Mr. Hughes:

This Notice of Violation (NOV) is in response to a August 23, 2000 Compliance Evaluation Inspection (CEI). A CEI is a routine inspection of hazardous waste generators, transports, and treatment, storage, and disposal facilities to evaluate facility compliance with applicable RCRA standards promulgated in 40 CFR 260-270, 273 and 279. These standards have been incorporated by reference into Georgia's Rules for Hazardous Waste Management.

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waste was being accumulated and an accumulation start date is required to be posted on the container. This is a violation of 40 CFR 262.34(a)(2).

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Area of concern:

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Within twenty (20) days of your receipt of this NOV please submit documentation showing correction of all the aforementioned violations. If you have any questions please contact Ken Grall at 404-656-2833 or by e-mail at ken_grall@mail.dnr.state.ga.us.

Sincerely,

Dave Yardumian

Dave Yardumian
Unit Coordinator

DY:kg
c: Jeff Pallas - EPA Region IV
Daryl Himes - EPA Region IV
File: GM - Doraville (R)
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

SEP 25 2000

4WD-RCRA

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

ORIGINATORS COPY

Mr. Dan Hughes,
Environmental and Energy Manager
General Motors Assembly Plant
3900 Motors Industrial Way
Doraville, Georgia 30360-3163

SUBJ: RCRA Compliance Evaluation Inspection
EPA I.D. No. GAD 003 310 810

Dear Mr. Hughes:

On August 23, 2000, the United States Environmental Protection Agency (EPA), conducted an RCRA compliance evaluation inspection at your facility located in Doraville Georgia, in order to determine it's compliance status with EPA.

Enclosed is the EPA RCRA Site Inspection Report which indicates that no violations of RCRA were discovered. A copy of this report has also been forwarded to Georgia Environmental Protection Division (GAEPD). Pursuant to the Memorandum of Agreement, GAEPD is the lead agency for any violations cited in the report.

If you have any questions, please contact Daryl Himes, of my staff, at (404) 562-8614.

Sincerely yours,

Jeffery T. Pallas, Chief
South Enforcement and Compliance
Section
Enforcement and Compliance Branch

Enclosure

cc: Jennifer R. Kaduck, GAEPD
Ken Grall, GAEPD

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

4WD-RCRA

SEP 25 2000

Ms. Jennifer Kaduck, Chief
Hazardous Waste Management Branch
Environmental Protection Division
Georgia Department of Natural Resources
Floyd Towers East, Room 1154
205 Butler Street, S.E.
Atlanta, Georgia 30334

SUBJ: RCRA Compliance Evaluation Inspection
General Motors Assembly Plant
EPA ID Number: EPA ID No: GAD 003 310 810

Dear Ms. Kaduck:

On August 23, 2000, a Compliance Evaluation Inspection was conducted by the United States Environmental Protection Agency (EPA) and the Georgia Environmental Protection Division (EPD) at the General Motors Assembly Plant facility located in Doraville, Georgia, to determine the facility's compliance status with RCRA.

Enclosed is the EPA RCRA Site Inspection Report which indicates that violations of RCRA were discovered. Pursuant to the EPA - EPD Memorandum of Agreement, EPD is the lead agency for enforcement of the violations discovered during this inspection.

Pursuant to the 1996 Hazardous Waste Civil Enforcement Response Policy (ERP), Day 0 is the date of the inspection referenced above. Based upon the violations discovered during the referenced inspection, the facility is determined to be a Secondary Violator (SV). Therefore, you must issue an informal enforcement action to the facility within ninety (90) days from day 0, and the facility must return to compliance within ninety (90) days from receipt of that informal action.

If you have any questions, please contact Daryl R. Himes at (404) 562-8614.

Sincerely yours,

Jeffrey T. Pallas, Chief
South Enforcement and
Compliance Section
RCRA Enforcement and
Compliance Branch

Enclosure

cc: Ken Grall, EPD w/enclosure

RCRA Inspection Report

1) Inspector and Author of Report

Daryl Himes
Environmental Engineer

2) Facility Information

General Motors Assembly Plant, (GM)
3900 Motors Industrial Way
Doraville, Georgia 30360-3163
(770) 455-5307
GAD 003 310 810

3) Responsible Official

Dan Hughes, Environmental & Energy Manager

4) Inspection Participants

Dan Hughs, GM
Lloyd Kaylor, GM
Ken Grall, GAEPD
Daryl Himes, US EPA
Larry Lamberth, US EPA

5) Date and Time of Inspection

August 23, 2000, 10:15 A.M.

6) Applicable Regulations

Title 40 Code of Federal Regulations (CFR) Parts 260 through 270.

Chapter 391-3-11 of the Georgia Hazardous Waste Management Act, adopted and incorporated by reference Parts 260 - 266, 268, & 270.

7) Purpose of Inspection

To conduct an unannounced compliance evaluation inspection (CEI) and determine the facility's compliance with all applicable regulations.

8) Facility Description

The GM Doraville facility is an automotive final assembly plant which assembles Chevrolet Venture, Oldsmobile Silhouette, and the Pontiac Montana. Parts are received by truck and by rail. Metal treatment operations performed include phosphating, electro-coating (ELPO), prime coating, base-coating, and clear-coating.

The facility covers approximately one-hundred and sixty-six acres. GM operates, on two nine-hour shifts, five days a week. There are approximately two hundred and seventy employees. GM has been operating since approximately 1946.

9) Findings

Following a presentation of credentials by EPA representatives, a brief discussion of the facility's operations and their management of hazardous waste generated within the facility was conducted. The walk-through portion of the inspection was then conducted which included: a windshield area, paint touch-up area, electro processing area, ninety (90) day storage area, paint tank room, paint mix room, and the wastewater treatment plant.

Windshield Area

One satellite container of hazardous waste was observed in this area. The drum was labeled with the words "Hazardous Waste" and closed.

Paint Touch Up Booths

One satellite container of hazardous waste was observed in the area outside the touch up booths. The fifty-five (55) gallon drum was labeled with the words "Hazardous Waste" and closed. Seven (7) touch up booths were being operated with at least five (5) booths having a small vat of solvent for tool cleaning purposes. Beneath the vats, the facility utilized five (5) gallon pails to transfer spent solvent from the vats to the satellite drum. Each pail was labeled with the words "Hazardous Waste." At the time of the

inspection, the pails were labeled with a D008 characteristic hazardous waste code. Facility personnel stated that this code was incorrect and would be corrected.

ELPO Area

During the metal surface treatment processing operations, the metal body of a car is submerged in a water-based primer. The primer is attached to the surface of the automobiles body when as electric charge is applied to the coating material and grounded by the body. The coating provides the foundation for a corrosion resistant finish. The coating contains a small amount of lead that is present to provide corrosion protection. The paint is filtered to remove impurities that might deposit on the metal surfaces. Spent filters are removed as required on a routine basis. Due to their lead content the filters are characteristically hazardous for lead and are collected in portable metal bins (5 ft. by 5 ft. by 2.5 ft) which are wheeled to the facility's ninety (90) day accumulation area and transferred to a roll-off container. At the time of the inspection, one portable container was present in the ELPO area with filters inside. The cart was closed and labeled with the words "Hazardous Waste" and an accumulation start date. The filters are accumulated and manifested off-site as D008 hazardous waste.

Paint Filter Bags

During the painting process, the metal body of a car is prime painted by submerging the car body in a tank of water based prime paint. Charging the paint tank and grounding the body deposits a uniform coating of paint on all surfaces. This coating of paint provides the foundation for a corrosion resistant finish. The paint contains small amounts of lead that provide the necessary corrosion protection. The paint is filtered to remove impurities that might deposit on the metal surfaces. Spent filters are removed as required on a routine basis. These filters are collected and transferred to drums. The filters are accumulated and properly disposed as hazardous waste D008.

In an area beneath the coating tanks, leaks of the liquid coating material were observed onto the floor below. A majority of the liquid falling in this area was observed to be draining into a concrete ditch which is connected to the facility's wastewater treatment area. Some of the material, however, was observed to be solidifying and collecting on the surface of the concrete in this area. **GM has failed to adhere to a condition for exemption from RCRA § 3005 given in 40 C.F.R. § 262.34(a)(1)(i) by allowing material from ELPO tanks to accumulate on the floor without being placed in containers.** Areas adjacent to that where the liquid was leaking onto the concrete were covered by a disposable layer of foil. These areas were relatively free of any leaks or dried on material at the time of the inspection.

Hazardous Waste Storage Pad (HWSP)

The HWSP is a concrete base which is covered with skid & chemical resistant coating. The pad is bermed, sloped and has a collection sump to collect water run-off from rain and other free liquids from leaks or spills. The pad has metal walls, a metal roof, and a chain-link gated fence.

During the inspection, twenty-three (23) containers of hazardous waste were observed in this area. Each container was in good condition, closed, and labeled with the words "Hazardous Waste" and an accumulation start date of less than ninety (90) days.

Four (4) pallets of lead acid batteries were observed in this area. The batteries were dated and in storage for less than one year in accordance with the requirements for a universal waste.

One satellite container of aerosol cans was also being managed as hazardous on the pad. The container was labeled and closed.

More than twenty (20) boxes of spent flourescent light bulbs were observed. The boxes were stacked on a pallet and were shrink-wrapped to keep them in place. Each box was in good

condition, closed, and labeled with the words "Hazardous Waste," and an accumulation start date of less than ninety (90) days.

Two (2) drums of mercury containing light ballasts were also in this area. The drums were labeled "Hazardous Waste" and dated.

At the time of the inspection, one portable container which is used occasionally in the ELPO area for the collection and transfer of hazardous waste filters was observed near a roll-off container used to manage the spent filters. The roll-off container was in good condition, closed, and labeled with the words "Hazardous Waste" and an accumulation start date of less than ninety (90) days. The cart, which had numerous spent filters stuck to the bottom inside, was closed and labeled only with the words "Hazardous Waste." **GM has failed to adhere to a condition for exemption from RCRA § 3005 given in 40 C.F.R. § 262.34(a)(2) by failing to label containers managing hazardous waste with an accumulation start date.**

Fourteen (14) fifty-five (55) gallon containers of used oil were observed in this area. All of the containers were labeled with the words "Used Oil."

Waste Purge Thinner Tank

Virgin and waste paint thinners are stored in adjacent seven-thousand five hundred (7,500) gallon tanks inside a paint tank room. The virgin thinner and spent thinner tanks are provided with lined secondary containment to contain spills. The volume of the secondary containment was adequate to contain the volume of one of the tanks. Spent thinner is transferred to the spent thinner tank by pipes through a gravity drain system which is free of pumps. The thinner is used to clean lines and equipment following a change of color. Spent solvent is removed from this tank in five thousand (5,000) gallon lots and transferred to a reclaim facility. The reclaimed material is reconstituted to GM specifications. The tank was equipped with a conservation vent in accordance Level 1 requirements for 40 CFR Section 265 Subpart CC requirements.

Paint Mixing Area

During the inspection, two (2) fifty-five (55) gallon satellite containers were observed in a satellite accumulation area inside the paint mixing room. Each container was closed and labeled with the words hazardous waste. At the time of the inspection, the floors in this area were clean and free of any spilled paint residues.

Painting Building

The painting operations were observed from a room above the actual painting operations. Painting systems are in place for primer, top coat, and repair painting. Hazardous waste is generated when paint becomes obsolete or "Off-spec." A paint color may become obsolete from one model car to the next. When a color becomes obsolete, it is removed from the system. Occasionally, a batch of paint may become "Off-spec" and must be disposed. Waste paints are drummed, moved to an accumulation area and transported off-site for fuel blending as D001 hazardous waste.

Waste Water Treatment Area

Over flows from the phosphate coating process are collected in a central drainage system and pumped to the on-site waste water pretreatment system. At the treatment facility, pH is lowered and raised to points of solubility of metals using sulfuric acid and hydrated lime. After precipitation, sludge is removed, thickened and dewatered. At the time of the inspection, the sludge, a F019 listed hazardous waste, was accumulating in of two (2) thirty-two (32) cubic yard roll-offs which were labeled with the words "Hazardous Waste" and an accumulation start date of less than ninety (90) days.

Record Review:

The following records were reviewed:

Manifests: All manifests generated since the last inspection were reviewed. The manifests were signed by a facility representative, transporter, and a return copy signed by the receiving facility. All Land Disposal Restriction documentation was completed for each type of waste by being either attached to the individual manifest or by being performed on a one time basis, based on the characteristics of the waste staying the same.

Inspection Logs: Inspection logs for the HWSP and tanks were complete and up to date.

Contingency Plan: A review of the contingency plan was conducted the listing of the emergency coordinators had not been updated to reflect the change of Don Smith being replaced by Dan Hughes.

Personnel Training: A review of the personnel training records indicated that facility personnel would need to compile the records in a manner which would reflect the positions at the facility responsible for management of hazardous wastes, their job description and required training, and records to reflect their annual training.

Waste Analysis Plan: A copy of the Waste Analysis Plan was available for review and appeared to be complete.

Copies of the facility's fee records and biennial reports were available for review.

10) Signed

Daryl R Himes 9/12/00

Daryl R. Himes Date
Environmental Engineer

11) Concurrence

Jeffrey T. Pallas, Chief
South Enforcement and Compliance
Section
Enforcement and Compliance Branch

9/15/00
Date